

**MODEL:** CP038-2042 | **DESCRIPTION:** PELTIER MODULE**FEATURES**

- silicon sealed
- wide ΔT max
- precise temperature control
- maximum hot side temperature of 195°C
- solid state construction

**SPECIFICATIONS**

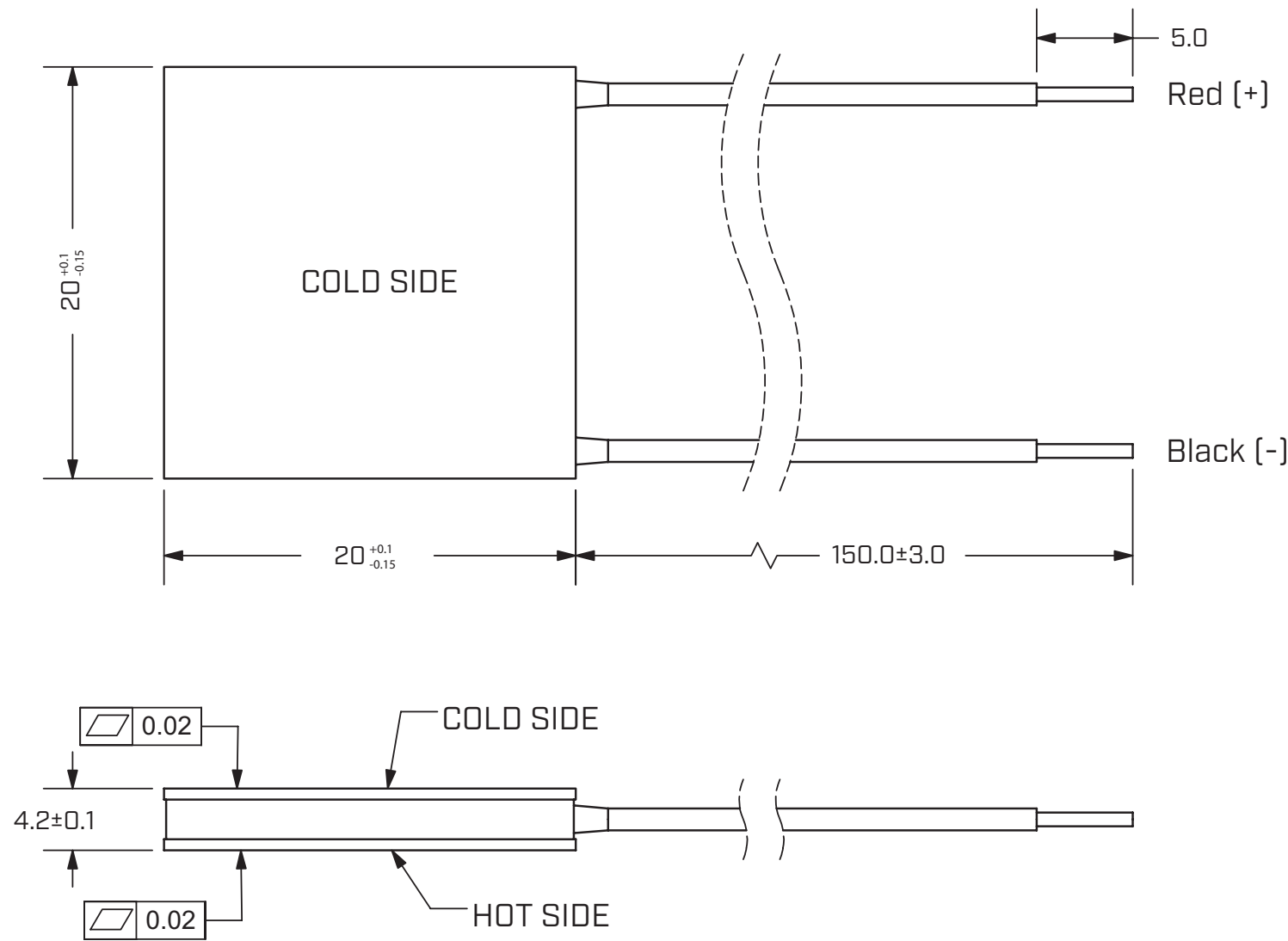
parameter	conditions/description	min	typ	max	units
input voltage ¹	Th = 27°C			4.0	V
	Th = 50°C			4.38	V
input current ²				3.8	A
internal resistance ³	Th = 27°C		0.78		Ω
	Th = 50°C		0.84		Ω
Qmax ⁴	Th = 27°C			9.3	W
	Th = 50°C			10.5	W
ΔT max ⁵	Th = 27°C			70	°C
	Th = 50°C			79	°C
solder melting temperature	connection between thermoelectric pairs	240			°C
hot side plate				195	°C
cold side plate		-60			°C
assembly compression			0.49		MPa
RoHS	yes				

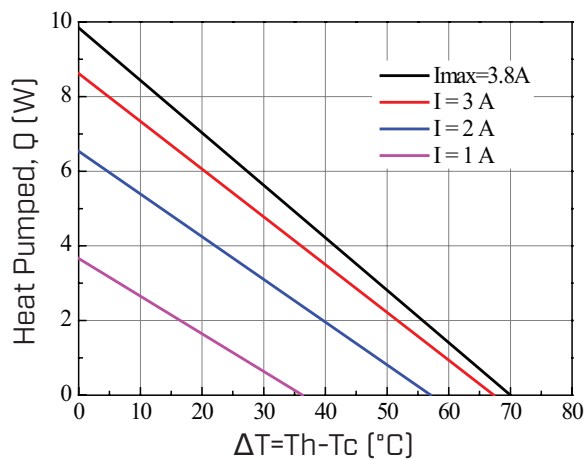
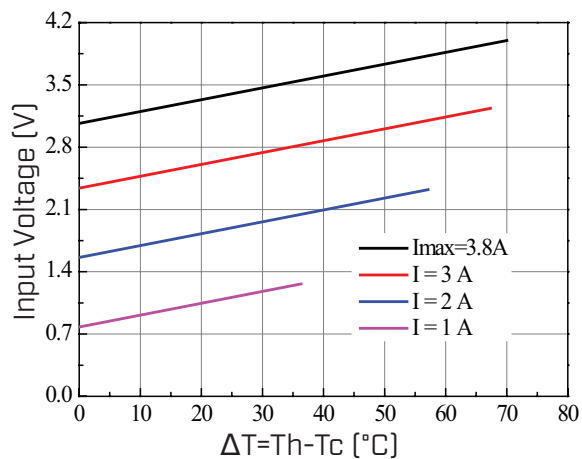
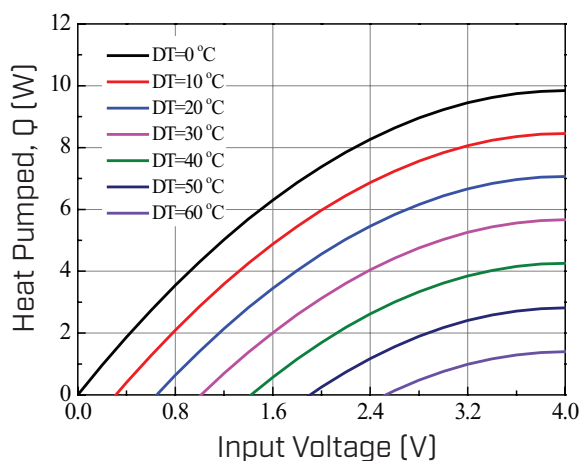
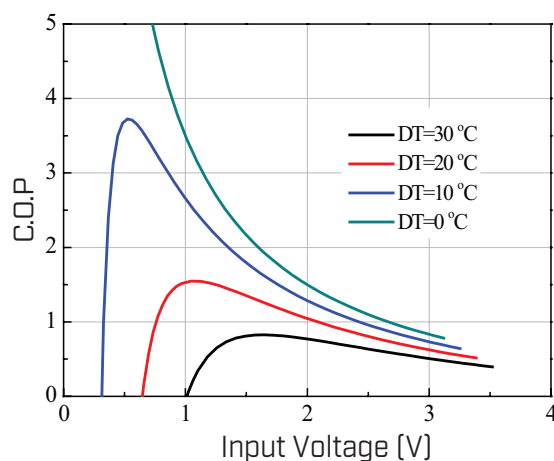
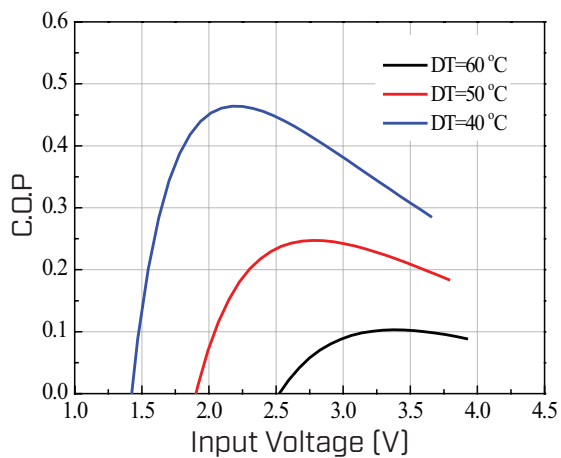
Notes: 1. Maximum voltage at ΔT max and $T_h=27^\circ\text{C}$
2. Maximum current to achieve ΔT max
3. Measured by AC 4-terminal method at 25°C
4. Maximum heat absorbed at cold side occurs at I_{max} , V_{max} , and $\Delta T=0^\circ\text{C}$
5. Maximum temperature difference occurs at I_{max} , V_{max} , and $Q=0$ W (ΔT max measured in a vacuum at 1.3 Pa)
6. Tolerance for all thermal and electrical parameters is $\pm 10\%$.

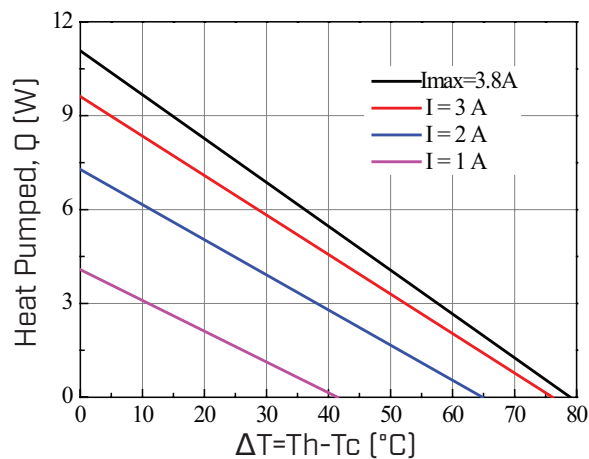
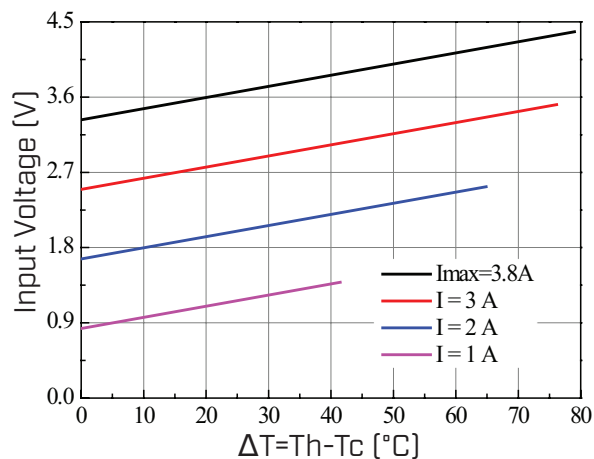
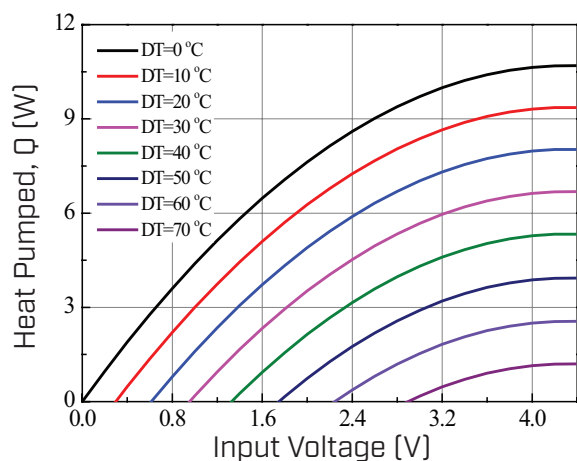
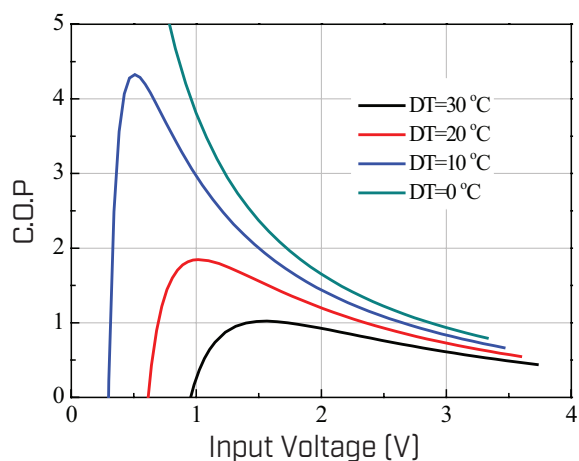
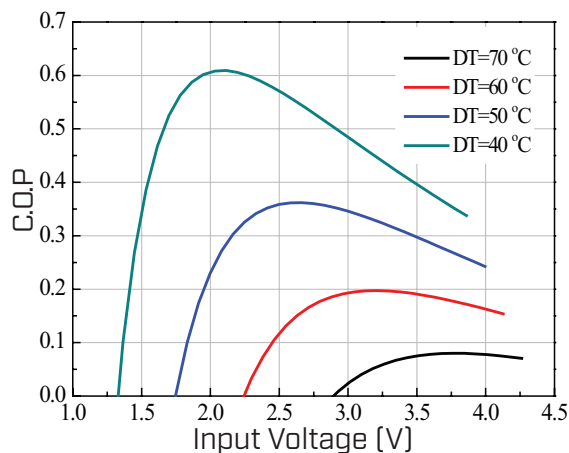
MECHANICAL DRAWING

units: mm

	MATERIAL	PLATING
ceramic plate	96% AL_2O_3	
wire leads	UL1726 20 AWG	tin
sealer	704 silicone sealant (between cold and hot side plates)	
marking	P/N printed on cold side surface	



PERFORMANCE (Th=27°C)**Heat Pumped, Q Vs. ΔT** **Input Voltage, V Vs. ΔT** **Heat Pumped, Q Vs. Input Voltage, V****COP Vs. Input Voltage, V ($\Delta T=0\sim 30^\circ C$)****COP Vs. Input Voltage, V ($\Delta T=40\sim 60^\circ C$)**

PERFORMANCE (Th=50°C)**Heat Pumped, Q Vs. ΔT** **Input Voltage, V Vs. ΔT** **Heat Pumped, Q Vs. Input Voltage, V****COP Vs. Input Voltage, V ($\Delta T = 0 \sim 30^\circ C$)****COP Vs. Input Voltage, V ($\Delta T = 40 \sim 70^\circ C$)**

REVISION HISTORY

rev.	description	date
1.0	initial release	03/28/2025

The revision history provided is for informational purposes only and is believed to be accurate.



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